

REMARKS

Claims 1-4, 8-18, 38-40, 48 and 49 are pending. Claims 5-7, 19-37 and 41-47 have been previously withdrawn from consideration. Claims 1-4, 8-18, 38-40, 48 and 49 are rejected. Claims 1, 4, 10, 11, 12, 16, 17, 38 and 49 are amended and new claims 50-56 added. Support for the amendments can be found throughout the application, for instance in the specification including pages 8-9 and 18 of the specification and the claims as originally filed. No new matter is added. Applicants respectfully request reconsideration and withdrawal of all rejections.

Claim Rejections - 35 U.S.C. 112, first paragraph

Claims 1-4, 10-12, 16-18, 38-40 and 48-49 are rejected under 35 U.S.C. 112, first paragraph as not being enabled. It is alleged that while the specification enables the use of hyperaccumulators of the *Alyssum* plant species, the specification does not enable the use of any hyperaccumulator plant accumulating the specified amount of heavy metals from soil, as claimed.

Applicants respectfully disagree. Applicants address the comments at pages 2-4 of the Office Action through the remarks herein as well as the attached Declaration Under 37 C.F.R. 1.132 by Yin-Ming Li (hereinafter "the Declaration"). Applicants first point out that the statements at the bottom of page 4 of the Office Action with respect to *Thalspi* and *Berkheya*, both cited at paragraph 11 of the specification, as being Brassicaceae rather than non-Brassicaceae hyperaccumulators are incorrect. That is, while *Thalspi* may be a Brassicaceae, see page 15 of the specification, *Berkheya* is a non-Brassicaceae, in fact a member of the Asteraceae family. Thus, the specification clearly indicates that non-

Brassicaceae are suitable for use in the claimed invention.

Also important, Applicants point to the Declaration, which is further enabling of the claimed invention. Applicants respectfully submit that the Declaration demonstrates that a variety of hyperaccumulators are suitable for use in the claimed invention, see e.g. paragraphs 7-10, whereas non-hyperaccumulators do not accumulate metal, see e.g., paragraph 10, as claimed. Moreover, the Declaration demonstrates that both Brassicaceae hyperaccumulators and non-Brassicaceae hyperaccumulators accumulate metal, in accordance with the claimed invention. See e.g., paragraphs 7-10. Furthermore, the Declaration demonstrates that metals other than nickel may be accumulated by hyperaccumulators, as claimed. See e.g., paragraphs 11-12.

Applicants therefore submit that the claimed invention is fully enabled in view of the application as originally filed and the submitted declarations. It is to be noted that a teaching of using the invention as claimed must be taken as being in compliance with the enablement requirement, unless there is a reason to doubt the objective truth of the statements which must be relied on for enabling support. See MPEP 2164.03 (citing *In re Marzocchi*, 439 F.2d 220, 224 (CCPA 1971)). Accordingly, since both the specification and submitted declarations clearly indicate that hyperaccumulators can be used in the claimed invention, and no reason to doubt the statements of the specification and/or Declaration has been provided, the rejection should be withdrawn.

Claim Rejections - 35 U.S.C. 112, second paragraph

Claims 1-4, 8-18, 38-40 and 48-49 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite. It is alleged that the phrase "at least about" renders the claims indefinite. Applicants respectfully disagree. Nevertheless, in order to advance

prosecution, the claims have been amended to recite “about . . . or more”, where appropriate. It is pointed out that the term “about” is commonly allowed in patents issued by the U.S. Patent and Trademark Office.

It is also alleged that claim 1 is indefinite for failing to recite complete methods steps that result in an increase in the amount of metal recovery. Applicants would like to remind the Examiner of the telephone discussion of June 24, 2003, wherein the Examiner explained that the allegation was included in the Office Action by error. Nevertheless, as requested by the Examiner, Applicants remind the Examiner that the preamble and body claim 1 are consistent, the preamble referring to “increasing” the amount of metal, while the body of the claim indicates that metal is “accumulated”, and thus the amount increased, in the above-ground tissue.

Regarding claims 1, 10 and 49, it is suggested that the term “elevating” be replaced with “adjusting”, since allegedly the term “elevating” does not work for all conditions. Applicants respectfully point out that the claims are amended herein, in accordance with this suggestion. Applicants also point out that the amendment broadens rather than narrows the claim, as even the Examiner’s suggestion recognizes that the term “adjusting” applies to all conditions.

Regarding claim 4, it is alleged that the phrase “limestone equivalents” is unclear. Applicants respectfully disagree. Applicants point that the specification quite clearly states that “limestone equivalents” are intended to encompass bases that have the same alkalinity as limestone. See pages 8-9 of the specification.

Also regarding claim 4, it is alleged that it is unclear whether the phrase “mixtures thereof” refers to “limestone equivalents” only. Applicants respectfully note that claim 4 is amended herein to recite “limestone equivalents, and mixtures thereof”, that is, to include a

comma after the phrase "limestone equivalents", to make clear that the phrase "mixtures thereof" refers to all members of the group as specified in the claim.

With respect to claim 11, it is alleged that it is unclear whether the "20-80%" is by volume, by weight, or something else. Applicants respectfully submit that claim 11 is amended herein to recite "20-80% of exchangeable cations", in accordance with the description at page 18 of the specification. Applicants urge that the amendment is made merely to clarify the claimed invention, and not affect the scope of the invention.

In claim 12, it is alleged that it is unclear whether the harvesting step or recovering step is referred to. Applicants respectfully submit that the rejection is moot in view of the amendment of claim 12 indicated herein. Applicants urge that the amendment is made to clarify the claimed invention, and no change in claim scope is intended.

Finally, in claim 49, it is suggested that the phrase "in a plant" be included in the preamble, for clarification. Applicants respectfully submit that the rejection is moot in view of the amendment of claim 49 indicated herein. Applicants urge that the amendment is made to clarify the claimed invention, and no change in claim scope is intended.

Applicants therefore urge withdrawal of the rejections.

Double Patenting

Claims 1-4, 8-18, 34-40 and 48-49 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-12 of U.S. Patent No. 5,944,872 (the "872 Patent"). Applicants respectfully point out that the relevant duly executed Terminal Disclaimer was filed on March 3, 2003. Therefore, the rejection should be withdrawn.

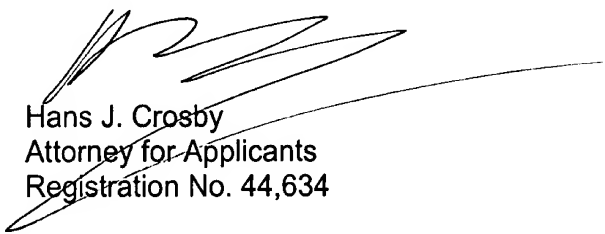
Applicants therefore urge withdrawal of all rejections.

In view of the amendments and above remarks, Applicants respectfully submit that this application is in condition for allowance and request favorable action thereon.

In the event this paper is not considered to be timely filed, Applicants hereby petition for an appropriate extension of time. The fee for this extension may be charged to our Deposit Account No. 01-2300. The Commissioner is hereby authorized to charge any fee deficiency or credit any overpayment associated with this communication to Deposit Account No. 01-2300, referencing Attorney Docket No. 108172-00037.

Respectfully submitted,

ARENT FOX KINTNER PLOTKIN & KAHN, PLLC



Hans J. Crosby
Attorney for Applicants
Registration No. 44,634

Customer No. 004372
1050 Connecticut Avenue, N.W., Suite 400
Washington, D.C. 20036-5339
Tel: (202) 857-6000
Fax: (202) 638-4810

HJC:ccd